PCT	For receiving Office use only				
101	l				
	International Applic	ation No.			
REQUEST	j				
•	International Filing Date				
The undersigned requests that the present	<u> </u>				
international application be processed according to the Patent Cooperation Treaty.	Name of receiving (	Office and "PCT Int	ernational Application"		
The second desperation floating.			critational Application		
	Applicant's or agent (if desired) (12 chard	stile reference acters maximum) 1	396 WO		
Box No. I TITLE OF INVENTION  Thermal shock resistant casting element and m	anufacturing pro	cess thereof			
Box No. II APPLICANT This person	n is also inventor				
Name and address: (Family name followed by given name; for a legal ent. The address must include postal code and name of country. The country of u Box is the applicant's State (that is, country) of residence if no State of residence		Telephone No.			
VESUVIUS CRUCIBLE COMPANY Suite 200, 103 Foulk Road	·	Facsimile No.			
Wilmington, DE 19803 United States of America		Teleprinter No.			
States of Amiliana		Applicant's regi	stration No. with the Office		
State (that is, country) of nationality: US	State (that is, countr	y) of residence:			
This person is applicant for the purposes of:  all designated States  All designated the United St	States except ates of America	the United States of America only	the States indicated in the Supplemental Box		
Box No. III FURTHER APPLICANT(S) AND/OR (FURTH	IER) INVENTOR(S	) .			
Name and address: (Family name followed by given name; for a legal entitle address must include postal code and name of country. The country of the Box is the applicant's State (that is, country) of residence if no State of residence HANSE, Eric 17 rue Henri Bosselin F - 59750 Feignies France		applical applical inventor is marke	nt only  at and inventor  only (If this check-box  ed, do not fill in below.)  stration No. with the Office		
State (that is, country) of nationality:	State (that is sound	_			
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to the purposes of States the United Sta	States except ates of America	the United States of America only	the States indicated in the Supplemental Box		
Further applicants and/or (further) inventors are indicated or	a continuation sheet				
Box No. IV AGENT OR COMMON REPRESENTATIVE;		R CORRESPOND	ENCE		
The person identified below is hereby/has been appointed to act or of the applicant(s) before the competent International Authorities a	as:	agent	common representative		
Name and address: (Family name followed by given name: for a legal entity The address must include postal code and name of cost DEBLED, Thierry	r, full official designation. untry.)	Telephone No. +32 65 400	819		
VESUVIUS GROUP S.A.		Facsimile No.			
Intellectual Property Department		+32 65 311	474		
rue de Douvrain 17		Teleprinter No.			
B - 7011 GHLIN		Anamalanania	an No with the Off		
Belgium	<del></del>		on No. with the Office		
Address for correspondence: Mark this check-box where n space above is used instead to indicate a special address to w	o agent or common re hich correspondence	presentative is/has l should be sent.	peen appointed and the		
orm PCT/RO/101 (first sheet) (March 2001; reprint January 2003	3)	Si	ee Notes to the request form		

Sheet N	۱۰ <b>2</b>	
Continuation of Box No. III FURTHER APPLICANT(S)  If none of the following sub-boxes is used, this sheet should n		
Name and address: (Family name followed by given name; for a legal en The address must include postal code and name of country. The country of Box is the applicant's State (that is, country) of residence if no State of residen DELVOYE, François 217 Avenue Jean Jaures F - 59600 Maubeuge France	tity, full official designation.	T
State (that is, country) of nationality:	State (that is, countr)	y) of residence:
	d States except states of America	the United States of America only the States indicated in the Supplemental Box
Name and address: (Family name followed by given name; for a legal ent The address must include postal code and name of country. The country of a Box is the applicant's State (that is, country) of residence if no State of resident LAVAL, Philippe 24 rue du Bon Dieu Cauwere B - 5032 Bossière Belgium		This person is:  applicant only  applicant and inventor inventor only (If this check-box is marked, do not fill in below.)  Applicant's registration No. with the Office
State (that is, country) of nationality:	State (that is, country,	) of residence:
This person is applicant for the purposes of:  all designated the United States all designated the United States	d States except tates of America	the United States of America only the States indicated in the Supplemental Box
	ty, full official designation.	
for the purposes of:    States	ty, full official designation.	This person is:  applicant only  applicant and inventor inventor only (If this check-box is marked, do not fill in below.)  Applicant's registration No. with the Office
Name and address: (Family name followed by given name; for a legal entitude postal code and name of country. The country of the Box is the applicant's State (that is, country) of residence if no State of residence.  State (that is, country) of nationality:	ty, full official designation. the address indicated in this the is indicated below.)  State (that is, country)	of America only the Supplemental Box  This person is:  applicant only applicant and inventor inventor only (If this check-box is marked, do not fill in below.)  Applicant's registration No. with the Office
Name and address: (Family name followed by given name; for a legal entitude postal code and name of country. The country of the Box is the applicant's State (that is, country) of residence if no State of residence.  State (that is, country) of nationality:	states of America  ty, full official designation. the address indicated in this the is indicated below.)  State (that is, country)  States except tates of America  ty, full official designation. the address indicated in this the is indicated below.)	This person is:  applicant only  applicant and inventor inventor only (If this check-box is marked, do not fill in below.)  Applicant's registration No. with the Office  of residence:

all designated States except the United States of America

Form PCT/RO/101 (continuation sheet) (March 2001; reprint January 2003)

all designated States

Further applicants and/or (further) inventors are indicated on another continuation sheet.

This person is applicant for the purposes of:

See Notes to the request form.

the States indicated in the Supplemental Box

the United States of America only

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Sheet	NO.	

Box	No.	. V DESIGNATION OF STATE	3	M	Mark the applicable check-boxes below	; at	leas	t one must be marked.
	The following designations are hereby made under Rule 4.9(a):							
<b>52</b> 0 T	Regional Patent  AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZM Zambia, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT (if other kind of protection or treatment desired, specify on dotted line).							
	EA	Eurasian Patent: AM Armenia, A RU Russian Federation, TJ Tajikis Patent Convention and of the PCT	Z Az tan,	zerb TM	aijan, BY Belarus, KG Kyrgyzstan, I Turkmenistan, and any other State v	KZ vhic	Kaz h is	akhstan, MD Republic of Moldova, a Contracting State of the Eurasian
<b>X</b>	EP	IE Ireland, IT Italy, LU Luxembor	ark, irg, I	EE MC	n, BG Bulgaria, CH & LI Switzerlan. Estonia, ES Spain, FI Finland, FR Monaco, NL Netherlands, PT Portug Contracting State of the European Pa	Fra zal.	nce, SE	GB United Kingdom, GR Greece, Sweden, SI Slovenia, SK Slovakia
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Nati	ion	al Patent (if other kind of protection	or t	rent	ment desired specify on detad line).			
		United Arab Emirates					N7	New Zealand
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Prec	auti	onary Designation Statement: In	addit	tion	to the designations made above, the	app	licar	nt also makes under Rule 4.9(b) all
other	des	ignations which would be permitted	und	ler ti	he PCT except any designation(s) in-	dic	ated	in the Supplemental Box as being 1
anva	esin	from the scope of this statement. The nation which is not confirmed before	appl	licar	nt declares that those additional design	nati	ons	are subject to confirmation and that
applie	cant	at the expiration of that time limit.	Confi	expi îrma	nation (including fees) must reach the re-	da en	ie is ina C	to be regarded as withdrawn by the

		Sheet No		
Box No. VI PRIORITY	CLAIM			
The priority of the following	g earlier application(s) is hen	eby claimed:	•	
Filing date	Number		Where earlier application	is:
of earlier application (day/month/year)	of earlier application	national application: country or Member of WTO	regional application:* regional Office	international application:
item (1) 29 March 2002 (29.03.02)	02447051.0		EP	
item (2)				
item (3)				
item (4)				
item (5)				
Further priority claims	are indicated in the Suppleme	ental Box.		
The receiving Office is reque if the earlier application was above as:	ested to prepare and transmit filed with the Office which for	to the International Bureau the purposes of this interna	a certified copy of the e	arlier application(s) (only ecciving Office) identified
all items item (	(1) item (2)	item (3) item	(4) item (5)	other, see
* Where the earlier application Industrial Property or one Mo	on is an ARIPO application, ir ember of the World Trade Or	ndicate at least one country Ranization for which that e	party to the Paris Conver	Supplemental Box
		•••••		
Box No. VII INTERNAT	IONAL SEARCHING AUT	THORITY		
Choice of International Sea international search, indicate	arching Authority (ISA) (if the Authority chosen; the two	wo or more International Sc -letter code may be used):	earching Authorities are o	competent to carry out the
ISA /	· · · · · · · · · · · · · · · · · · ·		• • • • • • • • • • • • • • • • • • • •	
Request to use results of ear International Searching Author	rlier search; reference to the prity):	hat search (if an earlier sea	arch has been carried out	by or requested from the
Date (day/month/year)	Numb	Count	try (or regional Office)	
29 March 2002 (29.03.0	,	051.0 E	EP	
Box No. VIII DECLARAT	TONS			
The following declarations a check-boxes below and indicate	are contained in Boxes Nos. 'te in the right column the num	VIII (i) to (v) (mark the ap ber of each type of declara	pplicable tion):	Number of declarations
Box No. VIII (i)	Declaration as to the identity			;
Box No. VIII (ii)	Declaration as to the applic date, to apply for and be gro	ant's entitlement, as at the anted a patent	international filing	: 1
Box No. VIII (iii)	Declaration as to the applic date, to claim the priority of	cant's entitlement, as at the	e international filing	: 1
Box No. VIII (iv)	Declaration of inventorship United States of America)	(only for the purposes of	the designation of the	: 2
Box No. VIII (v)	Declaration as to non-prejud	dicial disclosures or except	tions to lack of novelty	

Sheet No. . . 5 . .

#### Box No. VIII (ii) DECLARATION: ENTITLEMENT TO APPLY FOR AND BE GRANTED A PATENT

The declaration must conform to the standardized wording provided for in Section 212; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (ii). If this Box is not used, this sheet should not be included in the request.

Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate:

In relation to this international application,

VESUVIUS CRUCIBLE COMPANY is entitled to apply for and be granted a patent by virtue of the following:

an assignment from

HANSE, Eric, 17 rue Henri Bosselin, F-59750 Feignies, France, DELVOYE, François, 217 Avenue Jean Jaures, F-59600 Maubeuge, France and LAVAL, Philippe, 24 rue du Bon Dieu Cauwere, B-5032 Bossière, Belgium

to VESUVIUS CRUCIBLE COMPANY, dated January 18, 2002.

This declaration is made for the purposes of all designations, except the designation of the United States of America.

This declaration is continued on the following sheet, "Continuation of Box No. VIII (ii)".

Sheet	Nο		6	

Box No.	VIII (III)	DECLADATION:	ENTITLEMENT TO CLAIM	DDIADITY
DUA INU.	A 111 (fiff)	DECLARATION	ENTITLEMENT TO CLAIM	PRICKITY

The declaration must conform to the standardized wording provided for in Section 213; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (iii). If this Box is not used, this sheet should not be included in the request.

Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application specified below, where the applicant is not the applicant who filed the earlier application or where the applicant's name has changed since the filing of the earlier application (Rules 4.17(iii) and 51bis.1(a)(iii)):

In relation to this international application,

VESUVIUS CRUCIBLE COMPANY is entitled to claim priority of earlier application:

No. 02447051.0

by virtue of the following:

an assignment from HANSE, Eric, DELVOYE, François and LAVAL, Philippe to VESUVIUS CRUCIBLE COMPANY, dated January 18, 2002.

This declaration is made for the purposes of all designations, except the designation of the United States of America.

This declaration is continued on the following sheet, "Continuation of Box No. VIII (iii)".

Box No. VIII (iv) DECLARATION: INVENTORSHIP (only for the purposes of the designation of the United States of America)
The declaration must conform to the following standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (v)
(in general) and the specific Notes to Box No. VIII (iv). If this Box is not used, this sheet should not be included in the request.

### Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv)) for the purposes of the designation of the United States of America:

for the purposes of the designation	of the United States of America:
I hereby declare that I believe I am the original, first and sole (if only is listed below) inventor of the subject matter which is claimed and	y one inventor is listed below) or joint (if more than one inventor for which a patent is sought.
This declaration is directed to the international application of which	
This declaration is directed to international application No. PCT/ to Rule $26ter$ ).	
I hereby declare that my residence, mailing address, and citizenship	are as stated next to my name.
I hereby state that I have reviewed and understand the contents of the of said application. I have identified in the request of said application, and I have identified below, under the heading "Prior Applications," Organization, day, month and year of filing, any application for a pate States of America, including any PCT international application design having a filing date before that of the application on which foreign	e above-identified international application, including the claims, in compliance with PCT Rule 4.10, any claim to foreign priority, by application number, country or Member of the World Trade ant or inventor's certificate filed in a country other than the United usting at least one country other than the United priority is claimed.
Prior Applications: 02447051.0, EP, 29 March 2002	• • • • • • • • • • • • • • • • • • • •
	***************************************
I hereby acknowledge the duty to disclose information that is 1 37 C.F.R. § 1.56, including for continuation-in-part applications, mat of the prior application and the PCT international filing date of the	erial information which became available between the Cline date
I hereby declare that all statements made herein of my own knowledg are believed to be true; and further that these statements were made made are punishable by fine or imprisonment, or both, under Section false statements may jeopardize the validity of the application or any	with the knowledge that willful false statements and the like so
Name: HANSE, Eric	
Residence: FIBILOS (city and either US state, if applicable, or country)	
Mailing Address: 17 rue Henri Bosselin	
F - 59750 Feignies	***************************************
Citizenship: Belgium	
Citizenship: Belgium  Inventor's Signature:  (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)	Date:
Name: DELVOYE, François	
Residence: France (city and either US state, if applicable, or country)	
Mailing Address: 217 Avenue Jean Jaures	
F - 59600 Maubeuge	
Citizenship: France	
Inventor's Signature:  (if not contained in the request of if declaration is corrected or added under Rule 26ter after the filling of the international application. The signature must be that of the inventor, not that of the agent)	Date: MULUM 15 Sees 3 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

Continuation	of Box No.	VIII (i) to (v)	DECLARATION
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If the space is insufficient in any of Boxes Nos. VIII (i) to (v) to furnish all the information, including in the case where more than two inventors are to be named in Box No. VIII (iv), in such case, write "Continuation of Box No. VIII..." (indicate the item number of the Box) and furnish

the information in the same manner as required for the purposes of the in respect of two or more declarations, a separate continuation box m should not be included in the request.	n of sock vis. This (unitable the leem number of the Box) and puritist e Box in which the space was insufficient. If additional space is needed to be used for each such declaration. If this Box is not used, this shee
Continuation of Box No. VIII (iv):	
Name: LAVAL, Philippe	
Residence: Belgium (city and either US state, if applicable, or country)	
Mailing Address: 24 rue du Bon Dieu Cauwere	
B - 5032 Bossière	
Citizenship: Belgium	
Inventor's Signature:	Date: 13-03-03
(If not contained in the request, of it declaration is corrected or added under the 26ter after the filing of the international application. The signature must be that of the inventor, no that of the agent)	(of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)
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Sheet No.				9				
Sheet 140.	•	٠	٠	٠	٠	٠	٠	

This international application contains: (a) in paper form, the following number of sheets: (a) in paper form, the following number of sheets: (b) may be applicated to be about a state of the state of	Box No. IX CHECK LIST; LANGUAG	GE OF FILING					
Figure of the drawings which should accompany the abstract:   Language of filing of the international application:   English	This international application contains:  (a) in paper form, the following number of sheets:  request (including declaration sheets)  description (excluding sequence listings and/or tables related thereto):  claims  abstract  drawings  Sub-total number of sheets:  (for both, actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (c) below)  Total number of sheets:  (b) only in computer readable form (Section 801(a)(i))  (i) sequence listings  (ii) tables related thereto  (cc) also in computer readable form (Section 801(a)(ii))  (i) sequence listings  (ii) tables related thereto  Type and number of carriers (diskette, CD-ROM, CD-R or other) on which are contained the  sequence listings:  tables related thereto:  (cadditional copies to be indicated under	This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):    Geacalculation sheet	1 4				
International application:  Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE  Neat to each signature, Indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).  Thierry Debled Agent  For receiving Office use only  1. Date of actual receipt of the purported international application:  3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:  4. Date of timely receipt of the required corrections under PCT Article 11(2):  5. International Searching Authority (if two or more are competent): ISA /  For International Bureau use only  Date of receipt of the record copy	Figure of the drawings which						
Thierry Debled Agent  For receiving Office use only  1. Date of actual receipt of the purported international application:  2. Drawings:    received date of actual receipt due to later but timely received papers or drawings completing the purported international application:  4. Date of timely receipt of the required corrections under PCT Article 11(2):  5. International Searching Authority (if two or more are competent): ISA /    For International Bureau use only   Date of receipt of the record copy      For International Bureau use only   Date of receipt of the record copy	should accompany the abstract:	international application: English					
Agent  For receiving Office use only  1. Date of actual receipt of the purported international application:  2. Drawings:  1. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:  4. Date of timely receipt of the required corrections under PCT Article 11(2):  5. International Searching Authority (if two or more are competent): ISA /  For International Bureau use only  Date of receipt of the record copy	Next to each signature, indicate the name of the person:	igning and the capacity in which the person signs (if such capacity is not obvious from reading the rea	quest).				
1. Date of actual receipt of the purported international application:  2. Drawings:  3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:  4. Date of timely receipt of the required corrections under PCT Article 11(2):  5. International Searching Authority (if two or more are competent): ISA /  For International Bureau use only  Date of receipt of the record copy		Thierry Debled					
S. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:  4. Date of timely receipt of the required corrections under PCT Article 11(2):  5. International Searching Authority (if two or more are competent): ISA /  For International Bureau use only  Date of receipt of the record copy	Date of actual receipt of the purported international application:		$\neg$				
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